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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933,316	08/20/2001	Stephen C Porter	8600-0029	7064

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EXAMINER

SHARAREH, SHAHNAM J

ART UNIT

PAPER NUMBER

1617

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/933,316

Applicant(s)

PORTER, STEPHEN C

Examiner

Shahnam Sharareh

Art Unit

1617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 August 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,4,9-11,15-28 and 38-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-4, 9-11, 15-28, 38-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 25, 2005 has been entered.
2. Claims 1, 3-4, 9-11, 15-28, 38-41 are under consideration on their merits. Claims 29-37 stand withdrawn as they are not directed to the elected invention.

The rejections of record are withdrawn in view of the claim amendments.

However, claims are now subject to new grounds of rejection.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 3-4, 9-11, 15-28, 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krall et al WO 00/44287 (WO '287) in view of Ricci et al US patent 6,203,779.

Krall discloses compositions comprising the two components of M1 and M2 (abstract; example 6, pages 50-53). M1 meets the limitation of the instant matrix-forming material because it contains 2-Hexyl Cyanoacrylate, which is an alkyl cyanoacrylate monomer in amounts of about 49% wt in total formulation. (see page 18, lines 18-20, example 4, page 47). M1 further contains hydroquinone, p-methoxyphenol and phosphoric acid as the stabilizers (page 6, lines 24-33; page 7, lines 1-26; page 19, lines 20-25, page 62, claims 1-9). Krall uses and claims such amounts of hydroquinone and phosphoric acid that falls within the ranges of the instant claim 20 (see page 63, lines 11-20). Krall also discloses the use of n-butyl cyanacrylates in amounts of about 33% wt. (see examples 4-5, 7, pages 47-54).

The M2 component of Krall contains a radiopaque moiety, which can be pure gold powder, iodinated oil or other like agents (page 17, lines 1-10; page 26, lines 18-26; page 27, lines 1-25). Krall specifically uses powdered gold, which meets the instant solid aggregate material limitation of claim 1 (page 50, line 15; example 6).

The ethyl myristate and the Ethiodol of Krall also anticipate the plasticizer component of instant claim 1 and 26, because they are respectively an alkyl ester and an iodinated oil and fall within the plasticizers enumerated in the instant claims 25-26. (see page 64, lines 1-6; and page 65, lines 15-18).

Krall's composition only lacks a polymeric non-cyanoacrylate rheology modifying agent that has an average molecular weight greater than 200,000.

Ricci describes embolic compositions comprising a polymer which falls within the scope of the instantly claimed non-cyanoacrylate rheology modifying agents. Ricci specifically describes the use of polymers or prepolymers that can either be cyanoacrylates or non-cyanoacrylates biocompatible polymers. The non-cyanoacrylate polymers described by Ricci include cellulose acetate, polymethylacrylates, or ethylene vinyl alcohol copolymers. (see col 5, lines 1-40; col 6, lines 56-67; col 9, lines 15-24). The cellulosic polymers of Ricci have an average molecular weight of about 200,000. (see col 5, lines 33-35). Ricci explicitly states that adjustment of the viscosity of the composition can be readily achieved by mere adjustment of the molecular weight of the polymer in the compositions. (see col 5, lines 39-41). Therefore, for purposes of adjusting the viscosity of an embolic compositions, all biocompatible polymers described by Ricci are functional equivalents.

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It is *prima facie* obvious to combine two compositions each of which is taught by prior art to be useful for same purpose in order to form third composition that is to be used for very same purpose; idea of combining them flows logically from their having been individually taught in prior art. *In re Kerkhoven*, 205 USPQ 1069 (CCPA 1980).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of invention to add a non-cyanoacrylate biocompatible polymer of Ricci including its methylacrylates or cellulosic polymers to the embolic composition of Krall and optimize the viscosity of such compositions for their own intended purpose by routine experimentation, because both polymeric units of Krall and Ricci are equally effective as embolic compositions.

Claims 1, 3-4, 9-11, 15-28, 38-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krall et al in view of Ricci as applied to claims 1, 3-4, 9-11, 15-28, 39-41 and further in view of Hechenberger et al US Patent 4,997,861.

The teachings of Krall and Ricci are described above. Their combined teachings do not use an inorganic particulate material such as fumed silica.

Hechenberger teaches polymeric adhesive compositions containing cyanoacrylate and non-cyanoacrylate polymers in combination with fumed silica (abstract; col 4). Hechenberger suggests that use of non-cyanoacrylate polymers and an inorganic thickener such as fumed silica provides improves stability and adhesive properties of cyanoacrylate polymeric adhesive agents (see col 2, lines 63-col 3, lines 20).

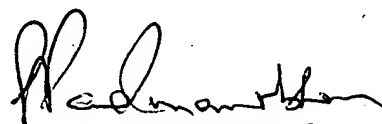
Accordingly since Hechenberger suggests that addition of fumed silica would improve adhesive properties of cyanoacrylate compositions, it would have been obvious to one of ordinary skill in the art at the time of invention to further add fumed silica to the formulations of Krall and Ricci, because the ordinary skill in the art would have had a reasonable expectation of success to enhance the adhesive properties of such compositions.

### ***Conclusion***

No claims are allowed. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shahnam Sharareh whose telephone number is 571-272-0630. The examiner can normally be reached on 8:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreenivasan Padmanabhan, PhD can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**SREENI PADMANABHAN**  
**SUPERVISORY PATENT EXAMINER**